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### **REMARKS**

Claims 2 and 4-21 are pending in the subject office action.

Claims 2 and 4-15 have been allowed. Claim 20 and 21 have been deemed allowable but stand objected to on the basis of an informality in the language of claim 20. Claim 16 is objected to and claims 16-19 stand rejected.

### **Amendments to the Claims after Final**

The proposed amendments to claims 16 and 20 merely address matters of form raised by the Examiner in the office action, without introducing new matter or any new issues of patentability. Accordingly, Applicant respectfully requests the entry of the amendments after final under Rule 1.116 (b)(1).

### **Objection to Claim 20**

Claim 20 has been amended to address the stated objection.

### **Rejection of Claim 16 under 35 U.S.C. §112**

Claim 16 stands rejected under 35 U.S.C. §112 on the basis that the term "the first substrate cooling plate" lacks an antecedent basis. The claim has been amended to remedy this ground of rejection.

### **Rejection of Claims 16-19 under 35 U.S.C. §102**

The above-identified claims stand rejected under 35 U.S.C. §102 as being anticipated by U.S. Patent No. 6,353,264 to Coronel et al.

Claim 16 is drawn to an integrated circuit package in which there is at least one optical circuit and at least one optical signal path through a cooling plate or a circuit, wherein the optical circuit is positioned to communicate through the optical signal path.

It is respectfully submitted that claim 16 and the claims dependent therefrom are patentable over Coronel et al because claim 16 calls for an optical IC positioned for signal communication through a substrate or cooling plate, e.g., "vertically," via a signal path through the substrate or cooling plate. In contrast, Coronel et al. expressly state that the laser

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chips disclosed therein emit signals parallel to the surface of the substrate (col. 8, lines 15-18), i.e., "horizontally," and so are not positioned as required by claim 1, even though Coronel et al. show signal paths that extend vertically. Because the chips shown by Coronel et al. are not positioned as required by claim 1, the waveguides 50 disclosed by Coronel et al. for conveying an optical signal vertically through the disclosed package must include Bragg gratings (see col. 7, lines 41 – col. 8, line 21) to re-direct the signals to travel in a path through the substrate.

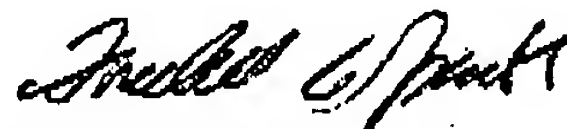
Due to the difference between the claimed invention and the arrangement shown by Coronel et al., it is not necessary for the claimed package to provide means for re-directing the optical signals into a path through a substrate or cooling plate, as the recited optical IC is positioned to direct the signal in such a direction. Therefore, by specifying in claim 16 that the optical IC is positioned for signal communication through a substrate or a cooling plate (rather than parallel to it), claim 16 is distinguishable from Coronel et al. and provides a significant advantage over such prior art. Note that the omission of an element from a prior art device or process without loss of the function of that element is an indicia of unobviousness. See MPEP 2144.04 II.B. (8th. Ed., Rev. 2, May 2004). Accordingly, claims 16 – 19 are believed to be allowable.

Each of the stated objections and grounds of rejection have been addressed or traverse. Reexamination and reconsideration of the rejected claims is respectfully requested.

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If there are any additional charges with respect to this Amendment or otherwise,  
please charge them to Deposit Account No. 06-1130

Respectfully submitted,



Frederick A. Spaeth  
Registration No. 33,793

Date: September 22, 2005  
CANTOR COLBURN, LLP  
55 Griffin Road South  
Bloomfield, CT 06002  
Telephone (860) 286-2929  
Facsimile (860) 286-0115  
Customer No.: 23413